

**REMARKS**

Claims 1-75 are pending in the present application. No claims have been amended, added, or cancelled, leaving Claims 1-75 for consideration. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

**Claim Rejections Under 35 U.S.C. § 103(a)**

All of the claims remain rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,538,774 to Landin et al.; JP-02-096921 A (JP '921; abstract only); Wu et al.; and Chang, alone or in various combinations, including, with respect to Claims 73 – 75, further in view of U.S. Patent No. 4,911,967 to Lazzari. Applicants respectfully traverse all of these rejections.

The Examiner's entire position is based upon speculation and assumptions available from the hindsight provided by the present application. However, even with the hindsight provided by the present application, many assumptions and speculations needed to be made to allegedly render the present claims obvious. Essentially, any property or limitation that was not present in the prior art was alleged to be necessarily present or "a cause effective variable" and therefore obvious.

In response to Applicants prior arguments, the Examiner contends that "many references have been cited of record to illustrate the general state of the art and the fact that one of ordinary skill in the art at the time of applicants' invention not only recognized the properties claimed by applicants, but also recognized the desired ranges for these properties...". (Paper 13, page 34) This statement, however, is not supported by the cited art. The cited art does not recognize the properties or ranges identified and claimed by applicants. For example, the properties of:

1. an edge-lift height of less than about 8  $\mu$ , 5 $\mu$ , and 3 $\mu$  (Claims 1, 2, and 3)
2. mechanical dampening coefficient greater than about 0.04 and 0.06... (Claims 5, 6, 35, 36);
3. an axial displacement peak of less than about 500  $\mu$  and 150  $\mu$  under shock or vibration excitation

4. moment of inertia of less than about  $5.5 \times 10^{-3}$  slug-in<sup>2</sup>,  $4.5 \times 10^{-3}$  slug-in<sup>2</sup> and  $4.0 \times 10^{-3}$  slug-in<sup>2</sup> (Claims 7 and 51 – 53);
5. a radial and tangential tilt of less than about 1° (Claims 8 and 38);
6. a moisture content which varies less than about 0.5% at the claimed test conditions (Claims 9 and 37);
7. a specific gravity of less than about 1.0 (Claim 10);
8. a resonant frequency of greater than about 250 Hz (Claim 11);
9. a surface roughness of less than about 10Å (Claim 1)
10. a first modal frequency greater than an operating frequency (Claim 12); and
11. one or less modal frequencies less than an operating frequency (Claim 13);

are not alleged to have been “recognized properties” or “recognized ranges”. They are alleged to be “necessarily present”; i.e., inherent. Additionally, where the properties “would not have necessarily been present in every embodiment...”, it is alleged that they are then “cause effective variables” such that an artisan “would recognize that controlling all of these properties to within applicants’ claimed limitations are necessary, and desirable, to achieve a dimensionally stable, high start-stop time recording media for high areal density applications.” (Paper 13, pages 28 – 29) However, specific teachings in the references recognizing each of these variables and their effect are not provided.

A particular parameter must first be recognized as a result-effective variable, i.e., a variable that achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)

(MPEP 2144.05 (II.B)) In other words, in order to rely upon this argument, the Examiner must show that each and every one of the above limitations is recognized as a “variable which achieves a recognized result”. Additionally, the Examiner must show that the alleged optimizing of that variable is enabled in the prior art. For example, every car manufacturer and customer desires improved the fuel economy. Weight is a known variable that effects the fuel economy of a car. The efficiencies of the fuel and the engine are also factors that effect the fuel economy of a car. Nevertheless, a car with reduced weight, efficient fuel, and/or a more efficient engine, and therefore having improved fuel

economy, is not obvious in view of the desire to have improved fuel economy; actually to the contrary. If it were so obvious, the improved fuel economy cars would be available today. Desires for higher areal densities, commercially viable manufacturing processes, more stable media, and the like, do not render media with those limitations obvious.

At a minimum, neither Landin et al., JP '921, Wu et al., Chang, nor Lazzari teach, suggest, or mention moment of inertia, tilt (radial or tangential), moisture content, specific gravity, modal frequency, or edge lift. As such, these references cannot be considered to have recognized these properties as “variable[s] which achieve a recognized result”. Neither the recognition nor the enablement of these variables is present in these references. Consequently, not only are these not recognized “result effective variables” that merely require routine experimentation for optimization, they are not even identified variables.

With respect to inherency,

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (The claims were drawn to a disposable diaper having three fastening elements. The reference disclosed two fastening elements that could perform the same function as the three fastening elements in the claims. The court construed the claims to require three separate elements and held that the reference did not disclose a separate third fastening element, either expressly or inherently.).

“In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant’s invention was directed to a biaxially oriented, flexible

dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was “formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material.” *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl's balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

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It is alleged that “it has been held that where the claimed prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of obviousness has been established.... In the instant case, the claimed and prior art products are substantially identical in structure and composition(i.e., a composite substrate formed from both rigid materials and plastic materials).... Thus applicant’s claim limitations would have necessarily been present.” (e.g., Paper 13, page 4) The Examiner notes that “if the prior art structure is capable of performing the intended use, then it meets the claim.” (e.g., Paper 13, page 6) Finally, the Examiner appears to argue that the claimed properties of mechanical dampening coefficient, moment of inertia, radial and tangential tilt, moisture content, specific gravity, resonant frequency, first modal frequency, and modal frequencies less than the operating frequency are all inherent features in the product of Landin et al., JP ‘921, Wu et al., and Chang (i.e., “would have necessarily been present”) because the structures are allegedly “substantially identical”. (e.g., Paper 13, pages 6 – 7) Additionally, where the properties are not present in every embodiment, it allegedly would have been obvious to have minimized these variables. (e.g., Paper 13, page 8)

In order to provide the evidence required by the Examiner to prove that the properties are not inherent in Landin et al., JP ‘921, Wu et al., Chang, and/or Lazzara, as well as to explain the history of the storage media technology, a declaration of Dr. Thomas P. Feist is submitted herewith. Dr. Feist, who is skilled in this art, has reviewed and understands these references. Dr. Feist explains that the present application can be

used as a template to modify Landin et al., JP '921, Wu et al., and/or Lazzara. However, none of these references teach or suggest the media claimed in the present application. Additionally, the claimed properties do not necessarily flow from the teachings of those references. The disks and properties taught in those references can be made and attained in accordance with those references without attaining the present media. In other words, a media meeting the requirements of Landin et al., JP '921, Wu et al., Chang, and/or Lazzara can be prepared that at least does not have a substrate comprising at least one plastic portion, an edge lift height of less than about 8  $\mu$ , a surface roughness of less than about 10 Å, and an axial displacement peak of less than about 500  $\mu$  under shock or vibration excitation.

It is noted that a misunderstanding of the inventiveness of the present application and the differences and advances in the technology describe by the applicants in the application and in the prior response is evidenced by the continued reliance upon Chang. Chang is directed to a method of making a high density recording medium having a non-magnetic metallic layer on a *flexible substrate*, wherein the high density recording medium can be used as *floppy disk* with greater data storage capacity (Abstract). (It is noted that “floppy disks” have a maximum storage capacity of less than 1.5 MB) Not only does Chang not meet any of the properties that are alleged to be “necessarily present” and/or cause effective variables, Chang cannot even be modified to meet the claimed limitations, without wholly disregarding the teachings of Chang, especially the most basic teaching (i.e., that the disk is floppy). A floppy disk having a flexible substrate does not and cannot meet the claimed limitations and still be a floppy disk having a flexible substrate.

None of Landin et al., JP '921, Wu et al., Chang, and Lazzara, alone or in combination, teaches all of the elements of the present claims. Additionally, the elements of the present claims are neither inherent nor result effective variables recognized by these references. The present claims are directed to a non-obvious storage media comprising particular substrate properties.

It is noted that, with respect to Claim 26 and the “basic and novel characteristics”, applicants note that, although materials such as polycarbonate had been used to form CDs in the past, these discs did not have the claimed properties of the present application.

Additionally, it is not obvious that such properties can be obtained with media having substrates consisting essentially of plastic. It is non-obvious that a plastic substrate can be used where "an edge lift height of less than about 8  $\mu$ , a surface roughness of less than about 10Å, and an axial displacement peak of less than about 500  $\mu$  under shock or vibration excitation", are required. The basic and novel features of this claim include the fact that the substrate consists essentially of plastic yet has an edge lift height of less than about 8  $\mu$ , a surface roughness of less than about 10Å, and an axial displacement peak of less than about 500  $\mu$  under shock or vibration excitation.

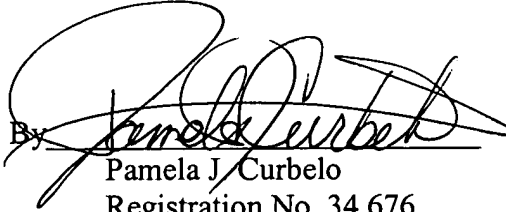
It is also noted that the plastic portion of Landin et al. is alleged to have "pits and grooves". (Paper 13, page 9). It is noted that the cited sections of the Figures 4 and 4b of Landin et al., namely elements 32, 33, 35, 52, 53, and 54, refer to damping material (32, 33, 35, 52, and 53) and to spaces (54). (Col. 9, line 55 – Col. 10, line 10). In other words, the plastic portion does not comprise pits and grooves as claimed in the present application. This figure and these referenced elements do not refer to pits and grooves.

It is believed that the foregoing remarks fully comply with the Final Rejection and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the rejections and allowance of the case are requested.

If there are any additional charges with respect to this Response or otherwise, please charge them to Deposit Account No. 07-0862.

Respectfully submitted,

CANTOR COLBURN LLP

By   
Pamela J. Curbelo  
Registration No. 34,676  
Customer No.: 23413

CANTOR COLBURN LLP  
55 Griffin Road South  
Bloomfield, CT 06002  
Telephone (860) 286-2929  
Facsimile (860) 286-0115

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